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WHAT IS CLAIMED IS:

- 1 1. An AC generator for a vehicle, comprising:
2 a rotor;
3 a stator disposed in opposed relation to said rotor;
4 a frame for supporting said rotor and said stator;
5 a rectifier fixedly secured to said frame and equipped with a radiating fin
6 which cools a rectifying element and makes an electrical connection; and
7 a cooling wind generating device for sucking cooling wind through said
8 rectifier into the rotor side,
9 wherein said radiating fin includes a fixing portion to which said rectifying
10 element is fixedly secured and a sub-fin extending radially from said fixing
11 portion, and said radiating fin has an opening portion surrounded by said fixing
12 portion, said sub-fin and an outer circumferential end portion of said radiating fin.
- 1 2. The generator according to claim 1, wherein a thickness of said fixing
2 portion in a radial direction is smaller than a thickness of said sub-fin in an axial
3 direction of said rectifying element.
- 1 3. The generator according to claim 1, wherein a cooling wind suction side
2 end portion of said sub-fin further protrudes toward a cooling wind suction side
3 with respect to one of a cooling wind suction side end portion of said fixing
4 portion and a cooling wind suction side end portion of said rectifying element
5 fixed to said fixing portion.
- 1 4. The generator according to claim 3, wherein said sub-fin has a first wall
2 surface disposed on an outer-diameter side around said rectifying element and a
3 second wall surface disposed on an inner-diameter side to make an angle below
4 180 degrees with respect to said first wall surface.

1 5. The generator according to claim 1, wherein said radiating fin is made of
2 aluminum in a die-casting manner.

1 6. The generator according to claim 1, wherein a standing portion protruding
2 toward a cooling wind suction side with respect to a cooling wind suction side end
3 portion of said fixing portion is formed on an inner-circumferential end portion of
4 said radiating fin.

1 7. The generator according to claim 1, wherein said radiating fin includes, as
2 two types of radiating fins, a positive electrode side radiating fin and a negative
3 electrode side radiating fin disposed in piles in a direction of a rotary shaft of said
4 rotor, and a lead portion of said rectifying element fixedly secured to one radiating
5 fin confronts the other radiating fin side and a cooling wind suction side end
6 surface position of the other cooling fin is set on the upstream side along a flow of
7 the cooling wind with respect to a joint position of said lead portion.

1 8. The generator according to claim 1, wherein said radiating fin includes, as
2 two types of radiating fins, a positive electrode side radiating fin and a negative
3 electrode side radiating fin disposed in piles in a direction of a rotary shaft of said
4 rotor, and said sub-fin and said opening portion are made in at least one radiating
5 fin located on the upstream side along a flow of the cooling wind and a plurality
6 of protruding portions are formed at a position on the other radiating fin
7 corresponding to said opening portion.

1 9. The generator according to claim 8, wherein said plurality of protruding
2 portions are formed radially around said rotary shaft of said rotor.

- 1 10. The generator according to claim 1, wherein a thickness of said sub-fin
2 corresponding to said rectifying element in an axial direction of said rectifying
3 element is made irregularly.
- 1 11. The generator according to claim 1, wherein an output terminal is provided
2 at one end portion of said radiating fin along its circumferential direction, and said
3 sub-fin corresponding to said rectifying element disposed on the other end side
4 along the circumferential direction is made so that its thickness in an axial
5 direction of said rectifying element is larger than a thickness of sub-fins
6 corresponding to other rectifying elements.
- 1 12. An AC generator for a vehicle, comprising:
2 a rotor;
3 a stator disposed in opposed relation to said rotor;
4 a frame for supporting said rotor and said stator;
5 a rectifier fixedly secured to said frame and equipped with a radiating fin
6 which cools a rectifying element and makes an electrical connection; and
7 a cooling wind generating device for sucking cooling wind through said
8 rectifier into the rotor side,
9 wherein said radiating fin includes a fixing portion to which said rectifying
10 element is fixedly secured and a first sub-fin extending radially from said fixing
11 portion and a second sub-fin made to divide an opening portion surrounded by
12 said fixing portion, said first sub-fin and an outer circumferential end portion of
13 said radiating fin.
- 1 13. The generator according to claim 12, wherein at least one side surface
2 forming said opening portion is made to be inclined to reduce an opening area
3 along a flow of the cooling wind to be sucked.

1 14. The generator according to claim 12, wherein said second sub-fin has an
2 arc-like configuration formed concentrically with the axis of said rectifying
3 element.

1 15. The generator according to claim 12, wherein said second sub-fin is
2 located on a more outer diameter side with respect to said fixed position of said
3 rectifying element around said rotary shaft of said rotor.

1 16. The generator according to claim 12, wherein a length of said second
2 sub-fin along a direction of a rotary shaft of said rotor is set to be shorter than
3 length of said first sub-fin in the rotary shaft direction, and a cooling wind suction
4 side end portion of said second sub-fin is located on a cooling wind generating
5 device side with respect to a suction side end portion of said first sub-fin.

1 17. The generator according to claim 12, wherein said radiating fin includes,
2 as two types of radiating fins, a positive electrode side radiating fin and a negative
3 electrode side radiating fin which are disposed in piles in a direction of a rotary
4 shaft of said rotor, and at least said radiating fin disposed on the upstream side
5 along a flow of the cooling wind has said first and second sub-fins.